

In the Claims:

Please amend Claim 1 and 8-10 as follows:

1. (Currently Amended): A method for in-line heat treating of steel wire and bar product stock of varying cross sections and compositions, hot rolled in a rolling mill, comprising the combined steps, conducted in-line with the rolling mill, of:

a. cutting the rolled stock into pieces of predetermined length;

b. quenching the pieces of hot rolled stock in a quenching box;

c. in preparation for tempering of the quenched stock, preparing at least one layer of a predetermined number of cut pieces of stock in a layers preparation zone, with use of a layers preparation system, wherein the number of cut pieces of stock per layer depends on the section of the rolled stock;

d. tempering the prepared layer(s) of stock arranged in one or more level(s) in an ~~on-line~~ in-line annealing furnace for controlled cooling, holding or heating of the layer(s) of stock for obtaining various metallurgical microstructures;

e. separating and discharging the layer(s) from the one or more level(s) into individual pieces of quenched and tempered stock with use of a separating and discharging device; and

f. cooling the quenched and tempered stock in a cooling bed; wherein
said items of equipment to carry out heat treatment of said stock of various cross sections are arranged in-line such that said heat treating steps and conditions are selectable in order to obtain the desired metallurgical microstructures for the various wire and bar product stock being heat treated while the wire and bar product stock is maintained in-line with the rolling mill .

2. (Original): A method according to claim 1, wherein the pieces of hot rolled stock coming from the quenching box have a temperature in the range 50 to 150° C.

3. (Original): A method according to claim 1, wherein tempering takes place while holding the layers of stock at a temperature in the range 500 to 700° C for a time about 60 minutes to about 120 minutes.

4. (Original): A method according to claim 1, further comprising the step of induction heating the rolled and quenched stock in-line before preparing layers to help the following tempering of the rolled stock in the annealing furnace.

5. (Original): A method according to claim 1, wherein cooling in the quenching box is started from a temperature of about 800° C.

6. (Original): A method according to claim 1, further comprising a subsequent in-line finishing step selected from the group consisting of final cooling in a water box, shotblasting, cutting to final form, and packaging.

7. (Original): A method according to claim 1, wherein the cooling bed is provided with a protective atmosphere.

8. (Currently Amended): A method according to Claim 1, wherein the number of levels in the ~~on-line~~ in-line annealing furnace is two or more.

9. (Currently Amended): A method according to Claim 1, wherein said layers preparation system in said layers preparation zone is positioned inside the ~~on-~~

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~~line~~ in-line annealing furnace, and

said separating and discharging device is positioned inside the ~~on-line~~ in-line annealing furnace.

10. (Currently Amended): A method according to Claim 1, wherein said layers preparation system in said layers preparation zone is positioned outside the ~~on-line~~ in-line annealing furnace, and

said separating and discharging device is positioned outside the ~~on-line~~ in-line annealing furnace.